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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,074	08/26/2003	Christian Jung	TRW(AS)6714	3362

7590 04/20/2004  
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EXAMINER
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HAYES, BRET C

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/648,074

Applicant(s)

JUNG ET AL.

Examiner

Bret C Hayes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 15-19 is/are rejected.
- 7) ☒ Claim(s) 12-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/14/2003</u> . | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 15 recites "said at least one spring...is pushed to block...", which is incomprehensible and as such, the claim cannot be further treated on the merits.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 4,083,187 to Nagashima.
6. Re – claim 1, Nagashima discloses the claimed invention including a gas generator filled with a \*pressurized fluid comprising a container 19 having an outflow opening 51, and a piston 18 displaceably arranged and having a shutter opening 50 dividing the container into a first chamber 56 and a second chamber 44 being filled with the fluid, the piston 18 on activation of the gas generator being moved by a pressure prevailing in the second chamber from a

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predetermined initial position in a direction toward the opening 51 into an end position (in phantom) in which a volume of the first chamber 55 is significantly reduced compared with a start volume of the first chamber 55. \*Atmospheric pressure includes a pressurized fluid.

7. Re – claim 10, Nagashima further discloses the shutter 50 having a smaller cross section than the outflow opening 51.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2 – 9 and 16 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagashima.

10. Re – claim 2, Nagashima further discloses the end volume being almost 50% that of the start volume of the first chamber 55, except for the end volume being more than 50% that of the start volume of the first chamber. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the end volume be more than 50% that of the start volume of the first chamber, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

11. Re – claim 3, Nagashima discloses the claimed invention except for the piston consisting of plastic. It would have been obvious to one having ordinary skill in the art at the time the

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invention was made to have the piston consist of plastic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

12. Re – claims 4 and 5, Nagashima discloses the claimed invention, including a rotary arm 41 and connector rod 46 provided in the first chamber 55 fixing the piston in the initial position, except for the piston 18 being fixed in the initial position by at least one spring. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a spring for the rotary arm and connector rod as disclosed by Nagashima, since the equivalence of a spring and a rotary arm and connector rod for their use in the fluid piston operating art and the selection of any known equivalents to a rotary arm and connector rod would be within the level of ordinary skill in the art.

13. Re – claim 6, Nagashima discloses the claimed invention except for the spring being in the second chamber 44. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nagashima to rearrange the device to have the rotary arm and connector rod in the second chamber, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70. In this case, the relocation of the arm and rod would still impart the necessary motion of the device.

14. Re – claim 7, Nagashima discloses the claimed invention except for the spring consisting of plastic. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the spring consist of plastic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

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15. Re – claim 8, Nagashima discloses the claimed invention, including a rupture disk **25** except for the rupture disk closing the shutter opening. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the rupture disk close the shutter opening, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

16. Re – claim 9, Nagashima discloses the claimed invention except for a second piston. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a second piston, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

17. Re – claim 16, Nagashima discloses the claimed invention, including the piston **18** hitting a wall **45**, except for the piston hitting an end wall. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the piston hit an end wall, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

18. Concerning method claims 17 – 19, in view of the structure disclosed by Nagashima, the method of operating the device would have been inherent, since it is the normal and logical manner in which the device could be used.

19. Claim 11 is rejected under 35 U.S.C. § 103 as being unpatentable over Nagashima in view of US Patent No. 5,301,979 to Allard.

20. Re – claim 11, Nagashima discloses the invention substantially as claimed as applied above. However, Nagashima does not disclose a diffuser so provided.

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21. Allard teaches a diffuser 42 in the same field of endeavor for the purpose of capturing fragments of a burst disk.

22. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nagashima to include a diffuser as taught by Allard in order to capture fragments of a burst disk.

***Allowable Subject Matter***

23. Claims 12 – 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

24. The following is a statement of reasons for the indication of allowable subject matter: the prior art neither discloses nor fairly teaches the combination including in the end position the second through-flow opening being opened and the first through-flow opening being closed by the piston.

***Conclusion***

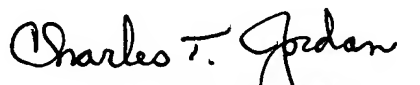
Any inquiry concerning this communication should be directed to Bret Hayes at telephone number (703) 306 – 0553. The examiner can normally be reached Monday through Friday from 5:30 am to 3:00 pm, Eastern Standard Time.

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If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan, can be reached at (703) 306 – 4159. The fax number is (703) 872 – 9306.

bh

4/18/04

  
**CHARLES T. JORDAN**  
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